



Research Paper

PRODUCTION OF COMPOST FROM MULBERRY SHOOTS USING LIGNO-CELLULOLYTIC FUNGI AND ITS IMPACT ON GROWTH AND YIELD OF MULBERRY

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ABSTRACT

Huge quantity of mulberry shoot is often left over as waste after silkworm rearing especially with the introduction of shoot rearing practice. These shoots take 10-12 months for decomposition under natural condition as it contains high amount of cellulose, lignin and hemicellulose. Therefore, disposal of this discarded hard shoots within the shortest period of time is essential to overcome amassing of mulberry shoot. In view of this, two species of fungi viz., *Pleurotus florida* and *P. ostreatus* possessing lignocellulolytic enzyme activity were assessed for their efficacy to decompose the left over shoots. The study unveiled, significant difference ($P < 0.01$) in decomposition rate of mulberry shoot by *P. florida* compared with control and *P. ostreatus*. The decomposition rate due to *P. florida* was even up to 92.28 % within a span of 150 days. Physical, chemical and biological properties of the compost prepared thereby were as following: pH: 7.2-7.9; EC: < 1.0 ; OC: 1.61-3.06 %; N: 0.30 - 0.60 %; P: 0.15 - 0.40 %, K: 0.30 - 0.50 % and high amounts of micronutrients such as Mn (592 ppm), Cu (72.50 ppm) and Zn (75 ppm). Moreover, the matured compost was rich in beneficial microbes. Soil fertility status was improved after incorporation of this compost in the soil as evidenced by the significant ($P < 0.05$) impact on plant height, number of leaves and leaf yield. The study recommends *P. florida* for hastening of decomposition of mulberry shoot for production of value added compost.

Key words: Decomposition, ligno-cellulolytic activity, mulberry shoots, *Pleurotus florida*.